

GOULEY (J. W. S.)

URETHROPLASTIC OPERATIONS

TO REMEDY

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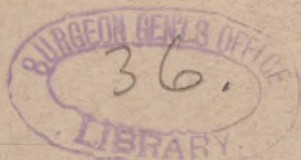
AND ALSO

INCURVATION OF THE PENIS.

BY

J. W. S. GOULEY, M.D.,

SURGEON TO BELLEVUE HOSPITAL.



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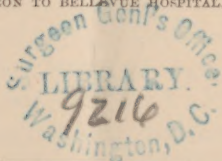
INCURVATION OF THE PENIS.

*Presented by
the Author*

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SOME years ago I directed my attention to certain plans of operation to remedy congenital malformations of the penis, which, for lack of proper material, I could not carry out until the case narrated below presented itself. I think that these processes can be adapted to the three principal varieties of hypospadias, and also to balanic epispadias; and they seem to me more promising than those heretofore employed.

Balanic hypospadias, which is very common, has generally been considered too trival to merit much notice, except it be attended with constriction of the urethral orifice, which then constitutes one of the forms of congenital stricture and demands internal lateral incisions.* But there are cases in which, even after free internal division, sufficient irritation still exists to cause sundry derangements of the nervous system, and to annoy the patient in various ways, and in these scarcely anything short of an operation will give relief.

In September, 1875, a gentleman requested an opinion from me regarding the propriety of his being operated upon for congenital balanic hypospadias. He had already been subjected to several operations, all of which had failed. One, he said, had consisted in denuding the edges of the gap or fissure, and bringing them together with wire sutures.

* See Gouley on Diseases of the Urinary Organs, p. 107.

But before this last attempt, an endeavor had been made to "dig a canal through the glans penis." The appearance of the deficiency was similar to that represented at A (Fig. 1), the malformation extending a little beyond the line of the base of the glans. At about half an inch from the end of the penis, the fissure was traversed by a cord-like isthmus of mucous membrane about an eighth of an inch in thickness. This was the result of the "digging" just referred to, and through the foramen which resulted, No. 8 sound only could be passed, while the urethral orifice at the proximal extremity of the gap admitted a No. 15 sound quite easily. There was also a slight degree of incurvation of the penis in its last inch. I told the patient that I had declined to operate in several cases similar to his, because I thought the malformation too slight to cause more than a very trifling inconvenience, and that for the same reason I would, in his case, advise against an operation. But as he gave me to understand that this affliction was preying greatly upon his mind, and as he became very urgent that I should undertake to remedy his trouble, I finally consented to do so; but deferred the performance of the operation for a few days, in order to mature the plan that I had already conceived for cases in which the defect is more extensive.

On September 9th, 1875, assisted by Dr. Z. E. Lewis, I executed the operation in the manner herein described, after having had the patient ætherized. As nothing could be gained by preserving the isthmus A (Fig. 1), and as it was really in the way, I snipped it in the centre, and its cut ends retracted to either side so as to be almost out of sight. I then made a longitudinal incision, beginning at B, and extending to C, and another parallel with the first, and a quarter of an inch to the outside, from D to E, and the two were united by short cuts from B to D, and from C to E. The teguments were dissected off from all the space bounded by these incisions. This process was repeated on the opposite side. The mucous membrane and skin in all the central

space, half an inch in breadth, more or less, included between the incisions BB to CC, from A to K, and beyond, were preserved intact. The incisions BC, BC, were about one-twelfth of an inch distant from the edge of the somewhat elliptical gap at its widest portion, and of course farther off above and below, being made quite straight and with a view solely to the necessary width of the new urethra. The next step consisted in gradually sliding the skin, so as to double it upon itself and bring the lateral denuded surfaces into apposition, to be so retained by a number of fine silken sutures in such a manner that CC would be united to BB. But to effect this I had to begin to stitch at FF, passing the suture from within outwards above, and from without inwards below, so that in folding the central skin which was to form the urethral floor, the angle or crease came at the point represented by the dotted line GG, as close as possible to the edge of the abnormal urethral orifice. Before tying the suture of one side, that of the opposite side was first passed, then the other threads were successively applied on either side, tied, and cut short, so that their free ends lay inside the newly formed urethra, until the last two, uniting CC to BB, were secured;—in all five on each side. Four additional sutures were passed on each side along the lines formed by the apposition of CEI to BDH. The stitching completed, the meatus became transverse instead of longitudinal, its inferior lip being the fold of skin from K, formed by the apposition of the points CC to BB, and its superior lip the edge of mucous membrane from B to B.

To prevent erections, ice-water dressing was used, and hyoscyamus and camphor given freely at night. The patient drew off his urine periodically with a No. 8 soft India-rubber catheter; each time, as directed, pinching closely the distal end of the instrument while withdrawing it. He followed so faithfully this latter injunction that not a drop of urine ever came in contact with the wound, which healed primarily. Some of the sutures were removed on the fourth day, and

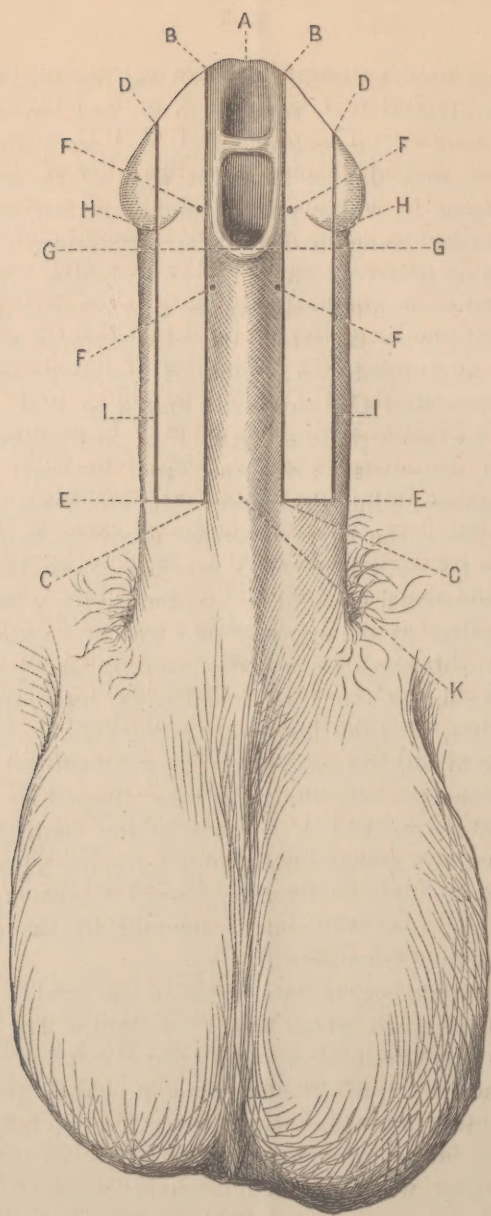


FIG. 1.

several others remained twelve days in the urethra, creating very little if any irritation, and were readily cut away.

Three weeks after the operation he indulged in the sexual act without any marked inconvenience, but thought that, during erection, the incurvation of the penis was somewhat increased, and determined to have this remedied by a second operation, which he underwent on October 16th, 1875. I made, on each side, through the integuments, an incision, beginning near the base of the glans—where the prepuce was quite loose, and resembled a pair of wings—and carried the cuts along the under-surface of the organ, upwards and inwards to the median line, a little beyond the proximal extremity of the newly formed urethra, where they were united, making a V-shaped wound. The central skin, which formed the floor of the new urethra, being thus liberated, was pulled forward as much as possible. The edges of the wing-like processes having been clipped, the skin was drawn back and stitched to the sides of the V in such a manner as to convert it into a Y. But as this produced a considerable degree of circumferential tension, I next made a longitudinal cut, an inch and a half long, only through the skin, on the dorsal aspect of the penis, and began to stitch it by bringing together its two extremities, and so converted it into a transverse wound, with the effect of completely relieving all tension, and at the same time of causing the organ to curve slightly backwards. The wounds healed primarily, except a small portion on the under surface which granulated. The patient was out in a week. His penis is now straight, and causes him no further anxiety or inconvenience.

A few weeks ago (January, 1876) I described my method of operating to Professor A. C. Post, who applied it to a case of balanic hypospadias, resulting from a phagedenic chancre. The operation was entirely successful. The Doctor had proposed to open the urethra in perinæo, in order to keep the urine away from the wound near the point of the penis, but finally concluded to adopt my simpler and safer plan, of

requiring the patient to pass all his urine by the aid of a soft rubber catheter, introduced as often as his bladder required relief.

To avoid employing a major, as an auxiliary to a minor operation, is a surgical precept that should not be disregarded, and, in accordance with this doctrine, it would be as wrong to perform external perineal urethrotomy, with the sole object of preventing the flow of urine upon a wound made to remedy balanic hypospadias, as it would to first tie the brachial in order to control hæmorrhage from the digital arteries in amputation of a finger. These objections are, I think, in themselves sound and conclusive; but even if they were insufficient, there are other reasons why this measure should be condemned. The experience of past years has taught that the endeavor to turn the current of urine, at least for the first day or two, by making a perineal opening, is almost certain to fail. It is well known that during the first day after this operation the urine usually flows through the whole urethral canal, owing to contact of the swollen lips of the wound in the perinæum. But it has been said that this might be "obviated by a catheter passed into the bladder through the perineal wound, and retained in position." That a catheter so introduced and retained does not always prevent the escape of some urine through the whole length of the urethra, during the first twelve hours, has long since been proved by many excellent observers. Therefore, I venture to assert, and hope to maintain, that opening the urethra in perinæo, as an adjuvant to this anaplasty, is worse than useless, since it constitutes not only a complication of some gravity, but a delusive procedure, calculated to defeat the very object which the operator may seek to attain, *i.e.*, to prevent the urine from contaminating the wound at the anterior extremity of the urethra, exactly as it would if it were voided spontaneously, or if it trickled beside a catheter passed through the meatus and retained in position.

In Dr. Post's case, where there is no incurvation of the penis, it is almost impossible to discover any traces of the surgeon's work. All that is observable is that the meatus is transverse, and that the prepuce, which has grown fast to the point of the penis, can be retracted only sufficiently to uncover the upper surface of the glans. If in this case there should be any tendency to accumulation of smegma, the prepuce could be slit on its dorsal aspect, or another operation could be done to construct a new prepuce capable of partially covering the glans, and of being completely retracted. The operation would be so simple that I shall take no space to describe it.

SCROTAL HYPOSPADIAS WITH INCURVATION.

When, in the scrotal variety of hypospadias, there is such incurvation of the penis as to impede sexual congress, an operation should be done to straighten the organ, and subsequently a new urethra might be constructed. It must be evident to all who have carefully examined cases of congenital hypospadias with incurvation that the abrupt bend in the penis (Fig. 2) is due entirely to the defective urethra, which checks erection, as in the "chordee" of acute urethritis. To remedy this deformity, the operation ordinarily performed consists in cutting across the bridle-like urethra, and then applying such dressings as will ensure a curve in the opposite direction until the completion of the healing process; generally, however, this is unsuccessful. Bouisson, of Montpellier, reports a case* of this kind, in which he resorted to division of the bridle three different times; and though he severed it completely down to the sheath of the penis, and was very careful in the after-treatment, he failed each time. The reason of his failure is that he made a transverse wound, and when cicatrization was completed, the parts resumed their former condition. In point of fact, a transverse wound will

* Bouisson, *Tribut à la Chirurgie*.

generally leave things in a much worse state than before. I was so deeply impressed with this fact, from reading Reybard's account of his experiments to illustrate the effect of different wounds of the urethra, that I determined to contrive an operation for splicing, and so lengthening the short and curved urethra in hypospadias, thereby avoiding a transverse cut. Early in 1866 I saw two cases of scrotal hypospadias with great incurvation of the penis, which I thought fit for the operation, but circumstances prevented its performance.

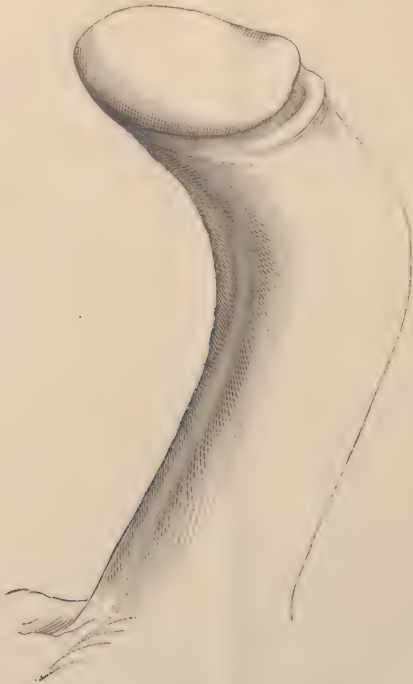


FIG. 2.—Enlarged from Bouisson.

The splicing process above mentioned was to consist in making a sigmoid incision to involve the whole thickness of

the urethral wall to the sheath of the corpora cavernosa penis, from L to M (Fig. 3), and two lateral cuts from the base of the glands N N, to O O, a little beyond the orifice of the urethra P. The sigmoid incision was to be made an inch and a half long, as the urethra was to be lengthened by an inch. As soon as the parts would be liberated, the traction made upon the penis, in the endeavor to straighten it, would bring together obliquely the edges of the sigmoid incision near its points L and M, which would take the position represented at R (Fig. 4), where a couple of fine silken sutures would be applied; then the edges of the long lateral cuts S T, S T (Fig. 4) would be stitched to the edges of the central portion, during which time an assistant should hold firmly the glans in such a manner as to curve the penis backwards. The diagram (Fig. 4) is drawn on the same scale as Fig. 3, and is intended to represent one inch of gain.

Ice-water dressing should be applied in such a case, and the penis drawn back upon the hypogastrium, or it may be guyed by a double suture passed through the point of the glans, and then through the skin of the pudic region, and so retained for three or four days. This is all I then intended to do; but now, the first operation succeeding, I would go a step farther, and in about four weeks afterwards would undertake to construct a canal from the orifice of the urethra P, in front of the scrotum, to the point of the penis, after the manner described for balanic hypospadias, but borrowing the tissues from the scrotum; that is, leaving intact a central quadrilateral portion of skin of sufficient dimensions, and making denudation on each side, and sliding and stitching, as in the balanic operation.

In perineal hypospadias, and in epispadias, the same principles can be applied, with such modifications as will be suggested by the particular condition of the parts in each case; always folding the skin forwards, and stitching as before described.

The method just detailed for lengthening mucous or cuta-

neous surfaces by splicing, can, I think, be adapted to anaplastics in various parts of the body, and also to operations

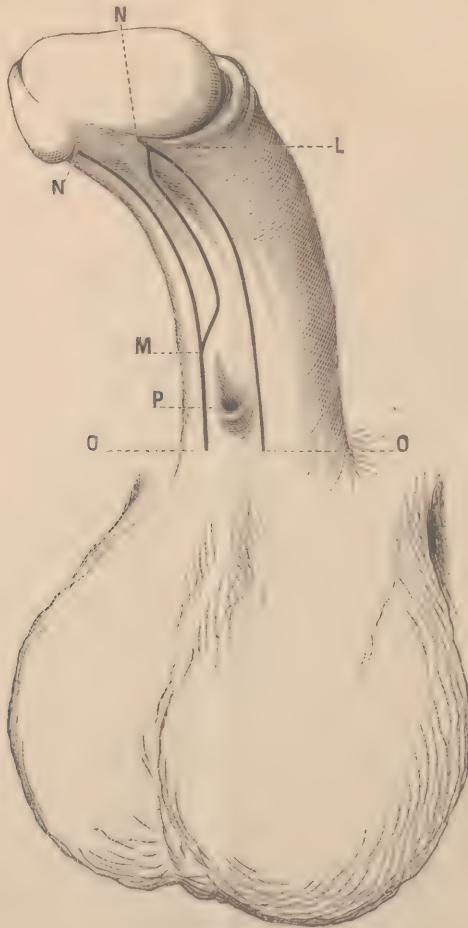


FIG. 3.

for remedying certain deformities due to loss of substance from burns and other causes.

If, in the performance of the operations described above,

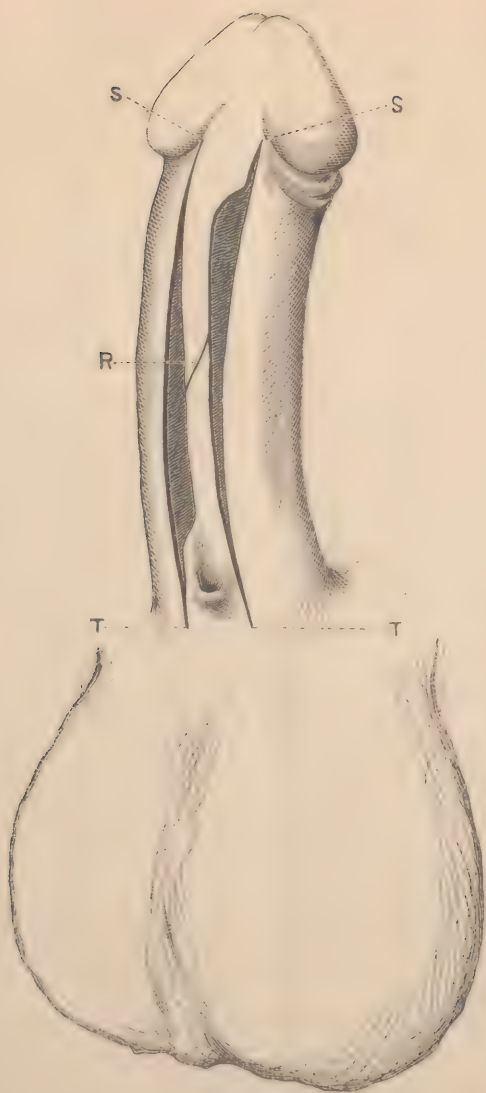


FIG. 4.

particular attention be given to the following details, the chances of success will be greatly increased.

1. The vertical incisions B C, D E (Fig. 1), should be a little longer than the fissure to be closed. If the latter be an inch and a half long, the former should extend a quarter of an inch farther back, to guard against any possibility of tension, and also to allow for subsequent retraction.

2. The denudation should extend a little more outwardly upon the glans, where the mucous membrane is less movable, than upon the body of the penis, where the skin is retractable by its own elasticity, owing to the underlying loose connective tissue.

3. Enough sound skin should be left in the centre between the incisions B C, B C, from A to K (Fig. 1) to make a capacious urethral canal.

4. The mode of applying the sutures so that the knots may lie within the newly formed urethra is one of the most important features of the operation, and if the operator wishes to ensure apposition and rapid union of the parts, he should bestow no little care upon this step.

5. No catheter should be retained in the urethra, but the bladder should be emptied as often as required, by means of a soft India-rubber catheter not larger than No. 8 of the English scale. Great care, however, should be taken while withdrawing the instrument to pinch up its distal end, in order to prevent any urine from lingering in the canal or saturating the wound.

6. If the denudation be free enough, and apposition of the parts be effected, union, if not by the first, certainly by the second intention, may be confidently expected in the majority of instances.

7. In case of failure of the operation, the parts will probably be in no worse condition than before, and a second operation can soon be attempted.

8. In the operation for splicing the cord-like urethra (Fig. 3), and lengthen it, say by an inch, the sigmoid incision L M

should be made about half an inch longer, to allow for retraction and also for the oblique position in which the ends of the flaps are placed (see R, Fig. 3). This incision should involve the entire thickness of the urethral wall, and expose the sheath of the penis, but care should be taken to avoid wounding the cavernous bodies. Any bands of connective tissue which might prevent the flaps from being slid in the right direction, should be divided, but the spongy body should be disturbed as little as possible from its bed.

9. The lateral longitudinal incisions S T, S T (Fig. 3), should be made close to the edge of the urethra, and deep enough to expose the sheath of the penis; and in stitching them to the edges of the central portion traction should be made upon the penis, which should at the same time be curved backwards.

10. The second operation, to construct the new urethra, should not be attempted in less than four weeks.

311 MADISON AVENUE, NEW YORK, *February 3, 1876.*

